BOROUGH OF TORQUAY.

Annual Report

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1908,

BY

THOMAS DUNLOP, M.B., C.M., D.P.H.,

TOGETHER WITH THE

Annual Reports of the Sanitary Inspectors

AND THE

Report of the Borough Meteorologist.

BOROUGH OF TORQUAY, 1908.

Area of the Borough, 3,858 acres.

Rateable value, £187,000.

Population—Census (1901), 33,625; estimated at the middle of 1908, 34,050.

Number of inhabited houses—Census (1901), 6,614.

Average number of persons per house, 5.

Density of population, 8·7 persons per acre.

Crude death rate, 1908, 17·0 per 1,000. Average for previous 10 years, 14·8 per 1,000.

Corrected death rate, 1908, 17·6 per 1,000. Average for previous 10 years, 14·2 per 1,000.

Death rate if all visitors excluded, 15·7 per 1,000.

Birth rate, 15·4 per 1000. Average for previous 10 years, 16·4 per 1,000.

Infantile mortality, 1908, 139. Average for previous 10 years, 120.

Death rate from zymotic diseases, 1·2 per 1,000.

Mean annual temperature, 52·1.

Hours of Bright Sunshine recorded, 1786·2.

Total Rainfall, 28·24 inches.

BOROUGH OF TORQUAY.

ANNUAL REPORT

OF THE

Medical Officer of Health

For 1908.

To His Worship the Mayor, and to the Aldermen and Councillors of the Borough of Torquay.

GENTLEMEN,

I beg to present my sixth Annual Report on the health of the inhabitants, and the sanitary circumstances of the Borough of Torquay. The report also contains details of the administration of the Factory and Workshops Act as required by the Secretary of State for the Home Department.

The Medical Inspection of school children has been carried out according to the instructions of the Board of Education. This is dealt with in a separate report.

The gross death-rate is 17 per 1,000, against 15·29 in 1907. The mortality was high among elderly people, more especially during the first quarter of the year. The summer of 1908 being exceptionally dry, most probably had a considerable influence in the production of zymotic diarrhœa, which caused 20 infantile deaths, and consequently accounted for the increase in the infantile mortality and of the zymotic death-rate.

The birth-rate has again fallen slightly, being 15·4 per 1,000, against 15·8 in 1907.

I have to thank the members of the Sanitary Committee and of the Town Council for their kindness and support throughout the year, also the Chief Officers of the Borough and Inspectors for their ever ready assistance.

I am, Gentlemen,

Your obedient servant,

THOMAS DUNLOP

THE BOROUGH.

The Borough of Torquay is formed by the civil parishes of St. Mary-Church and Tormoham. The total area of the Borough is 3,858 acres. It is divided into nine wards, which, with their populations, according to the 1901 census, are as follows :—

Torre	3851
Waldon	3576
Upton	4339
Ellacombe	5911
Strand	3129
Torwood	3644
St. Mary-Church	3312
Babbacombe	3264
Chelston	2599
The Borough	33,625

For the purpose of Sanitary administration, the Borough is divided into three districts, in each of which a Sanitary Inspector has full charge, under the Medical Officer of Health.

No. 1 District.—The whole of the Chelston, Torre, and Waldon Wards, that portion of the Strand Ward on the west side of Fleet Street, and that portion of Upton Ward on the west side of Union Street

No. 2 District.—The whole of the Torwood Ward, that portion of the Strand Ward on the east side of Fleet Street, the whole of Ellacombe Ward, and that portion of the Upton Ward on the east side of Union Street.

No. 3 District.—The whole of the St. Mary-Church and Babbacombe Wards.

The principal public Institutions from a Sanitary point of view are—

The Torbay Hospital in the Upton Ward.

The Western Hospital for Consumptives, and the Rosehill Children's Hospital in the Strand Ward.

Smyrna, or the Mildmay Consumptive Home, in the Ellacombe Ward.

St. Barnabas', St. Luke's, St. Raphael's, and Erith House, all Consumptive Homes, situated in the Torwood Ward.

The Borough Sanatorium for infectious diseases is situated on the Newton Abbot Road, just outside the Borough boundary, in the Newton Abbot Rural District. The Corporation possess another Isolation Hospital, also situated outside the boundary, about half a mile from the village of Cockington.

Physical Features and General Character of the District.

These are of a highly diversified character, especially the central portions forming the Torquay promontory. In this district the two principal heights are the Warberry, 448 feet, and the Lincombe Hills, 372 feet, forming long ridges running N.E. and S.W., which are composed of the Lower Devonian grits and slates. The lesser heights, such as the Braddons, Waldon Park, and Chapel Hill, are formed of Middle Devonian limestone, which rests above the grits and slates mentioned.

On each side of this central area, viz., at St. Mary-Church and Chelston, rocks higher in the Geological scale for the most part prevail. These rocks belong to the Permian formation, and consist of beds of Breccia—a kind of conglomerate—and sandstones of a deep red colour, owing to the presence of peroxide of iron.

There is very little clay in any portion of the area, and what does occur is of the nature of marl, and is confined to the lower levels of certain valleys or depressions, so that rain is not detained on the surface, as it rapidly disappears through these rather pervious rocks and soils.

METEOROLOGY.

Full details of the Meteorology of the Borough will be seen in the appended annual report of Mr. F. March, F.R. Met. Soc., M.P.S., Borough Meteorologist; but the following resumé of the climatic conditions may be of interest:—

		1906.	1907.	1908.
Highest Maximum Temperature	...	76°·1	77°·3	78°·2
Lowest Minimum „	...	28°·8	24°·6	23°·4
Mean Maximum „	...	57°·3	56°·3	57°·9
Mean Minimum „	...	45°·9	55°·4	46°·2
Mean of Maximum and Minimum	...	51°·6	50°·9	52°·1
Difference from average	...	·4	·3	+0·9
No. of days on which rain fell	...	170	199	173
Total fall in inches ...	...	28·53	33·22	28·24
No. of hours of bright sunshine	...	2026·3	1741·1	1786·2

THE CLIMATE OF TORQUAY.

The winter climate of Torquay may be described as mild and equable. By comparative tables of recorded temperatures, "The Lancet" has again and again demonstrated that although the mean temperature of Foreign Health Resorts, such as Nice and Florence, is somewhat higher than that of Torquay, yet the nights here are just as warm as those in the resorts mentioned. The main feature, however, is the large amount of sunshine experienced during the winter months. Other beneficial factors are freeness from fogs and the dryness of the air.

The benefit of living under such climatic conditions must be apparent to all, but it is inestimable to those who are asthmatical, or who are sufferers from chronic bronchitis. To the aged and infirm, who are extremely sensitive to every change of temperature, life under such conditions is prolonged and made worth living. The bright sunshine and the possibility of being constantly in the open air are most advantageous to children, and those who are delicate have every chance of growing up strong and healthy.

It hardly appears necessary to again refute the fiction that Torquay is unbearably hot in summer. During the hottest days it has been found invariably that the maximum temperature here is some 5 to 10 degrees lower than those recorded in London and the Midlands. To a great extent this is due to the fact that Torquay is situated on a promontory, thus being flanked on two sides by the sea, while to the north-west is Dartmoor, so that it is constantly fanned by cool breezes from one or other direction. It seems difficult to imagine a more delightful spot to spend a holiday in. Boating, bathing and fishing of the best, while in the neighbourhood are innumerable places of beauty and interest, which are easily accessible by sea, coach, or rail. These facts are amply proved by the constantly increasing number of visitors who year after year spend their summer holidays here.

WATER SUPPLY.

The water supply of Torquay is derived from an upland surface gathering ground about 15 miles from Torquay, on the borders of Dartmoor. The area of the gathering ground is about 2,241 acres, and is composed of:—

	Acres.
Moorland	584
Woods	75
Woods (new)	30
Land within zone	350
Land under cultivation	212
Grazing	990
Total ...	2,241

The water is stored in three large reservoirs—the Tottiford, containing 103,000,000 gallons, the Kennick, 194,000,000 gallons, and the Trenchford, 200,000,000 gallons. The last named reservoir was completed in 1907, and with the assistance of heavy rains in the autumn was full by the end of the year. It was kept full until this last autumn, so that the vegetable matter on the sides and bottom might be destroyed. The water was then drawn off and has now been completely changed, and samples taken show that it is very much improved in quality. It is hoped that before long we may be able to utilise it as one of our sources of supply.

As stated in previous reports the Corporation are owners of the whole watershed, and now there are no farms or inhabited buildings on the area, so that there can be no danger from what would otherwise be a constant menace to the purity of the water.

When the watershed was purchased, the reservoirs, streams and feeders were protected by zone fences to keep out all cattle, and inside the fences trenches were dug to catch the surface water and cause it to percolate through the soil before reaching the streams. This precaution was an excellent one, but the error was made of placing these at too great a distance from the streams, so that in the intermediate land grass and vegetation has grown most abundantly, and it has been found most difficult to clear this away, much of it being left to die down in the autumn and winter, and ultimately this decayed vegetable matter is washed into the streams, injuriously affecting the quality of the water. Mr. Chapman (the Water Engineer) and I have carefully considered the subject, and recently presented a report to the Committee suggesting alterations in the lines of the zone fences, and the substitution of wire fencing for the old post and rail, which requires continual labour to keep it in repair.

Much labour has during the year been expended in cleaning up and clearing the course of the streams, especially that of the Trenchford Brook, which has been cleared and widened in its whole extent. Such labour is absolutely necessary to lessen the

amount of peaty matter entering the streams; the benefit of this is apparent from the reduction in the amounts cleared annually from that portion of the reservoirs above the screens.

The rainfall on the watershed is now taken at six stations, and the results are as follows :—

	1906.	1907.	1908.
Kennick	34·84	41·66	31·88
Mardon	35·28	41·03	32·32
Blackingstone No. 1 ...	28·01	34·73	25·29
„ No. 2 ..	——	44·68	33·63
Laployd	29·51	36·48	26·37
Bullaton	39·03	42·59	33·68

The average over the whole watershed is 30·54 inches or 10·65 inches less than in 1907, when it was 40·19 inches. The average amount of evaporation over a water area of about 83 acres was 20·45 inches against 18·29 in 1907.

The water supply is continuous, and the average amount used for all purposes was 33 gallons per head per day.

Quality of the Water.

Professor Percy Franklin, after visiting the gathering ground and examining samples of the water, both chemically and bacteriologically, reported as follows :—

"A source of water supply which, in respect of freedom from suspicion, ranks with the best upland surface supplies in the Kingdom. The water also contains such a small amount of lime and magnesia salts that it possesses all the well-known advantages of very soft water, whilst its slightly alkaline reaction prevents it from having any solvent power on lead."

During the year I have made regular chemical analyses of the water taken from different parts of the borough, and also of samples taken from the springs and streams feeding the reservoirs. The following results of a recent analysis are typical :—

Physical Characters.

Colour	Slightly brownish yellow
Turbidity ...	Cloudy
Odour	None.
Deposit	A very minute amount of vegetable debris.

CHEMICAL RESULTS.

Expressed in parts per 100,000.

Total solids	7·6
Chloride	1·5
Hardness	2·4
Nitrites	Nil
Nitrates	·18
Free Ammonia	·001
Organic Ammonia	·0048
Oxygen absorbed in 4 hours at 80° F.	·082
Poisonous metals	Nil

From an examination of the above results and a knowledge of the gathering ground, I have no hesitation in classifying this water as an excellent one for all domestic purposes.

SEWERAGE.

The sewage of the whole district, and most of the storm-water, is conveyed to the main sewer in Fleet Street. That of the low-level system, which comprises the area covered by the Strand, Torbay Road, Vaughan Parade, Victoria Parade, Beacon Hill, George Street, and Swan Street, being pumped into the main sewer by means of automatic hydraulic pumps. The main sewer is seven feet in diameter, and runs from Fleet Street to Hope's Nose, a distance of almost two miles. The outfall is at such a level that the sewage is discharged at all states of the tide. No method of treatment is adopted, as the flow of current is out towards mid-channel beyond Berry Head, and does not under any circumstances return towards the bay.

In my report for 1907, I dealt with the question of the nuisance arising from the ventilators on that portion of the main sewer which runs along Meadfoot Beach. The Borough Engineer had reported on various methods of dealing with it, and had recommended that the most satisfactory way was to remove the sediment lying in this section by manual labour. This was done early last summer, and in spite of a very dry, hot season, no complaints were received.

During the hot weather, complaints were made of the smell arising from the open culvert running through Upton Valley. On investigation it was found that sewage matter was evidently finding its way into this, which is only intended for surface water. This was a serious matter, as children constantly play about in this open space, and frequently get into the water channel. All

possible sources were tested with disinfectant fluid, and at last it was found that the overflow from a cesspool receiving the sewage from three or four cottages, and the drainage of a farm yard on West Hill, had at some time or other been connected to the surface water drainage in that road. When there was much water flowing no nuisance arose, but in dry weather the solid matter was deposited in the pipes, only to be washed into the valley by the next heavy shower. Instructions were at once given to carry up the sewer from the nearest point and connect the drain to it. Since then we have had no further trouble.

The Council are now effecting a very desirable improvement, by filling in and levelling the middle portion of Upton Valley. It was hoped at one time to convert this into a public pleasure ground, and the stream utilised for ornamental purposes. It was, however, found that rubbish of all sorts was thrown in, and the place became very unsightly. The stream will now be covered in.

Flooding has occurred on one or two occasions in some houses at Plainmoor after heavy deluges of rain. This matter was fully investigated a couple of years ago, and the conclusion of the Borough Engineer was that the house drains, which are connected to a sewer in a back lane, have little if any fall, the result being that in times of heavy rain storms the sewage is forced up the traps in the yard, and then finds its way into the houses. The Council have offered to bring connections from the large sewer in St. Mary-Church Road to the front doors of these houses, if the owners will re-lay the drains, bringing them through the houses.

Since the installation of the new pumping station at Livermead, a considerable number of houses of the bungalow type have been erected in this locality. The system is working satisfactorily.

Collection and Disposal of Refuse.

House refuse is removed by the employées of the Corporation, under the Surveyor's Department. In most parts of the town it is removed once a week, but in certain parts twice. It is carted to the destructor works in Upton Valley, and there consumed, about 12,000 tons being dealt with annually. The destructor is a "Warner Perfectus" of four cells. The boilers are heated from the furnaces, and the steam generated can be used to drive donkey-engine, vertical engine for running blower, 25-horse power engine for running mortar mill and electrical installation. The clinker produced is ground and used for mortar: for this there is a good demand.

Owing to the large amount of garden refuse sent to the destructor, the question of its disposal became a serious matter. After much consideration, a charge of 1/- a load was ordered to be made, which to some extent restricts the amount sent and has helped to pay for the extra labour entailed in its destruction.

POPULATION.

The population of the Borough at the 1901 census was found to be 33,625, of whom 13,339 were males, and 20,286 females. The number of inhabited houses being 6,614, and the average number of persons per house was 5.

At so distant a period from the last census, it is very difficult to get at anything like a correct estimate of the population. There are several facts which make me think it is considerably higher than my last estimate. At a recent Council meeting Councillor Pike, in moving that— "A committee be formed to consider the advisability of forming a new ward in the Borough"—stated that he considered the population very much higher than was generally thought, his estimate was 38,434, and he got at this figure in the following way. In the year 1900 there were 6,129 names on the burgess roll, and this number multiplied by $5\frac{1}{2}$ gave approximately the same population as was found by the census, viz., 33,709. He therefore argued that by dealing in a similar way with the number of burgesses on the roll in 1908 (multiplying 6,988 by $5\frac{1}{2}$), we ought to get a fairly correct estimate of the population for that year. In this manner he arrived at the figure 38,434. Another fact which tends to confirm the above, is the number of new houses occupied during the year. Mr. Garrett and I have inspected over 100 new houses for habitation certificates, and from enquiries I have made of the builders, I find that a large proportion of these are let or sold to persons coming to reside here from outside districts. On the other hand, the statistics for the year show that the natural increase is a minus quantity, more from the increased number of deaths than from a marked fall in the number of births. I have therefore deemed it advisable not to make any great alteration in our numbers, contenting myself with adding 50 to last year's estimate. The figure used in compiling this year's statistics is 34,050.

It is necessary, in preparing statistics and comparing the various death rates of Torquay with those of the whole country, to consider the age and sex distribution of the population. The population of a district, in which the proportions of males to females, or of young persons to old persons, are different to those

of the country generally, will suffer more than the whole country from the diseases which particularly affect persons of the age and sex which predominate in the district. In order to insure a just comparison between the death-rate of such a district and the country as a whole, it is necessary to raise or lower the gross death-rate of the district to what they would be if the proportions of the local population in respect of age and sex were the same as those in the country generally.

As Torquay has a much larger proportion of females to males in its population, and of people at advanced ages, than that of England and Wales, I have calculated a factor by which all Torquay rates have to be multiplied to compare them with those of the whole country. This factor is ·8044.

BIRTHS.

The total births registered during the year was 524—males 265, females 259—being 13 less than in 1907. Of the 524 births 21 were illegitimate.

The numbers registered in each quarter of the year were as follows :—

1st quarter	136
2nd „	139
3rd „	121
4th „	128
Total	524

The birth-rate is equal to 15·4 per 1,000 per annum. It is ·4 per 1000 less than in 1907.

The following table gives the total births and the birth-rates for the past nine years compared with those for England and Wales.

Years.	Number of Births.	Torquay Birth Rate, per 1,000 living.	England & Wales Birth Rate, per 1,000 living.
1900	559	16·6	28·9
1901	556	16·5	28·5
1902	540	16·0	28·6
1903	536	15·9	28·4
1904	530	15·7	27·9
1905	522	15.4	27·2
1906	566	16·6	27·0
1907	537	15·8	26·3
1908	524	15·4	26·5

In comparing the birth-rate of Torquay with other towns, we must bear in mind the constitution of the population. Here we have a large excess of females over males, a large proportion of the females are spinsters, and some 40% are either above or below the child bearing age. In the face of such facts, it is unreasonable to expect anything but a low birth-rate.

VACCINATION.

Through the courtesy of Mr. Edwards, the Vaccination Officer, I am able to give the results of primary vaccination for the years from 1897 to 1907. It is very satisfactory to note the large percentage of children protected from small-pox.

Year.	Total births registered	Successfully vaccinated	Insusceptible of Vaccination	Had Small-pox	Number of Certificates from Conscientious Objectors	Died Unvaccinated	Postponed by Medical Certificate	Removed to other districts the Vaccination Officer of which has been apprised	Removed Address unknown	Percentage successfully Vaccinated	Excluding those who died Unvaccinated. Percentage
										%	%
1897	683	581	2	—	—	59	—	4	20	85	93
1898	664	544	2	—	10	64	6	7	25	82	90
1899	612	505	6	—	14	67	6	3	11	83	93
1900	596	502	1	—	15	47	7	3	21	84	91
1901	597	491	2	—	16	57	13	1	17	82	91
1902	579	488	2	—	8	61	4	4	8	84	92
1903	565	508	2	—	14	34	1	3	3	90	95
1904	564	476	—	—	20	49	3	6	8	84	92
1905	561	504	—	—	16	30	5	2	4	90	94
1906	591	501	1	—	25	47	5	2	8	84	92
1907	582	447	2	—	41	39	5	4	13	76	82

NOTE.—These are the figures for the Torquay Registration Area.

It is quite evident that the order of the Local Government Board requiring the Registrars of Births, after the registration of a birth, when a child has attained the age of 3 months, to send a notice to the parents, warning them that they have only a month left to obtain an exemption from vaccination for their child, is

having a disastrous effect on the numbers vaccinated. In one year it has caused our percentage of successful vaccination to drop from 84 to 76, and I have reason to know that in all probability the figures for 1908 will show it more plainly. It will certainly be a serious matter for the country generally when an epidemic of small-pox does occur again.

INFECTIOUS DISEASES.

Under the Torquay Harbour and District Act, 1886, provision was made for the compulsory notification of the dangerous infectious diseases. It also contained similar clauses to those in the Infectious Diseases Prevention Act, 1890, which rendered its adoption unnecessary.

Notifications.

During the year 232 cases of infectious disease were notified.

The following shows the numbers of the various diseases compared with those notified during the past five years.

Notifiable Disease.	1908.	1907.	1906	1905.	1904.
Small-pox	—	—	—	1	—
Cholera	—	—	—	—	—
Diphtheria	99	14	2	6	4
Membranous croup	—	—	—	—	—
Erysipelas	3	9	2	5	3
Scarlet fever ..	114	53	34	36	28
Typhus fever ..	—	—	—	—	—
Enteric fever ..	16	10	11	10	9
Relapsing fever ..	—	—	—	—	—
Continued fever ..	—	—	—	—	—
Puerperal fever ..	—	1	—	1	1
Plague	—	—	—	—	—
Totals ..	232	87	49	59	45

As will be noticed from the number of notifications, we have suffered in an exceptional degree from infectious disease, the increase being due to Scarlet Fever and Diphtheria; they are dealt with fully under separate headings.

The following table gives the notifications during each month of 1908:—

	Small-pox.	Diphtheria and Membranous Croup.	Enteric Fever.	Puerperal Fever.	Scarlet Fever.	Erysipelas.	Chicken-pox	Total.
January ..	—	3	1	—	1	—	—	5
February ..	—	7	—	—	—	—	—	7
March ..	—	15	3	—	3	—	—	21
April ..	—	4	2	—	2	—	—	8
May ..	—	6	1	—	1	1	—	9
June ..	—	2	2	—	2	—	—	6
July ..	—	19	—	—	5	1	—	25
August ..	—	7	—	—	4	—	—	11
September ..	—	10	—	—	5	—	—	15
October ..	—	8	5	—	7	1	—	21
November ..	—	8	2	—	55	—	—	65
December ..	—	10	—	—	29	—	—	39
Totals ..	—	99	16	—	114	3	—	232

In table III. of the Local Government Board returns on page 43 full details are given of the age of patients, the number occurring in each ward, and the number of such removed to Hospital.

Cases Isolated in Hospital.

Of the 232 cases notified, 137 were removed; this is equal to 59 per cent. They were as follows:—

Diphtheria	...	80	to the Sanatorium, Newton Road.
Scarlet Fever	...	48	,, ,, ,,
Enteric Fever	...	1	,, Torbay Hospital.
		8	

The percentage of removals seems small, but, as will be shown when discussing scarlet fever, 80 cases occurred in St. Mary's Orphanage in a period of six weeks, which made it impossible to remove them.

Steps taken to prevent the spread of Infectious Disease.

On the receipt of a notification, the house is visited as soon as possible, particulars as to source of infection, milk supply, school attended, drainage, &c., obtained, and if necessary arrangements made for the removal of the patient to the Sanatorium. Frequently the Medical Attendant notifies that the case is one suitable for treatment in the Sanatorium, a step which greatly facilitates their early removal

After removal, or on recovery, should the patient be isolated at home, the infected rooms and bedding are fumigated with formaline. Next day the bedding and clothing is removed to the Disinfecting Station and there sterilised in a steam disinfector. In every case of notifiable disease this is done free.

The disinfector is one of the Thresh Disinfector Company's machines. It has now been in constant use for four years, without requiring any special attention. During the year 4,597 articles were disinfected, consisting of 441 mattresses, 639 pillows, 346 blankets, 200 bolsters, 141 sheets, 131 quilts, and 1,849 other articles of clothing, &c.

Where it is found that children in an infected house are attending one of the public elementary schools, the Attendance Officer is notified of the case. All cases suspected to be infectious by the School Attendance Officer, and where no doctor is in attendance, are notified to me as Medical Officer to the Education Authority.

Notification of infectious cases are also sent to the Librarian of the Free Library.

The system, started last year by the Education Authority, instructing the Head Teachers of the Elementary Schools to notify me of all cases of infectious sickness among the scholars, has been carried out most conscientiously, and proved of the greatest value to me as Medical Officer of Health. I therefore take this opportunity of thanking the Teachers for their willing co-operation. In this way I quickly become aware of the appearance of such diseases as measles, whooping-cough, etc. As Diphtheria was prevalent during the year, they notified all children away with sore throats, and by this means many unrecognised cases of this disease were detected and dealt with.

Means of Isolation.

The Borough Sanatorium, Newton Abbot Road, consists of the administrative Building—a Scarlet Fever ward block, consisting of two wards, with 7 beds in each; and a Diphtheria ward block, two wards with 7 beds in each. There is also a private ward for one patient, with Nurse's room attached.

Enteric Fever.

When there is accommodation, the Authorities of the Torbay Hospital admit cases of this disease.

Cockington Sanatorium.

Taken over from the Cockington Urban District at the time of the amalgamation. This hospital is considerably more than half-a-mile from any inhabited building, so that it is kept in readiness for the reception of small-pox, should any arise. Twice during the last four years has it proved its usefulness, as I have, by removing to it imported cases of small-pox without delay, prevented the spread of the disease. In a health resort such as Torquay, where the introduction of small-pox is not unlikely, and the consequence of an epidemic would be disastrous, such accommodation is absolutely indispensable.

Small-pox.

No cases of this disease were notified.

Diphtheria.

After many years of almost complete immunity from this disease, the Borough has suffered considerably during the year. In all a total of 99 cases occurred.

The following table gives the cases notified and deaths occurring during the past 10 years :—

Year.	Cases.	Deaths.
1898	4	0
1899	9	0
1900	8	0
1901	5	1
1902	9	1
1903	13	2
1904	4	1
1905	6	1
1906	2	0
1907	14	1

The outbreak of 1908 appears to have commenced on December 21st, 1907, when two cases were notified from a house in Upton. In January two cases were notified in Waldon and one in Upton; in February cases were notified in four widely separate wards, and there was apparently no common factor in their causation. During March and throughout the rest of the year the disease was most prevalent in Upton and the contiguous wards of Torre, Ellacombe, and Strand, with occasional cases in the other wards. The following table shows the monthly notifications and the wards in which they occurred :—

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Totals.
Torre	—	—	3	—	—	—	1	1	1	1	1	1	9
Waldon	2	—	—	—	—	—	—	—	—	1	—	1	4
Upton	1	2	7	4	2	1	11	2	6	2	4	3	45
Ellacombe .	—	—	2	—	1	1	4	2	2	1	1	—	14
Strand	—	2	1	—	2	—	2	1	—	2	1	2	13
Torwood	—	2	—	—	1	—	—	—	—	—	—	1	4
St. Mary-Church ..	—	—	—	—	—	—	—	—	1	1	—	—	2
Babbacombe ..	—	—	—	—	—	—	1	1	—	—	—	1	3
Chelston	—	1	2	—	—	—	—	—	—	—	1	1	5
Totals	3	7	15	4	6	2	19	7	10	8	8	10	99

The age and sex distribution is as follows :—

Ages.	1—5	5—15	15—25	25—65	Totals.
Males	12	30	2	1	45
Females	9	39	4	2	54
Totals	21	69	6	3	99

Of the 99 cases notified, 80 were removed to the Sanatorium for treatment.

Twelve deaths were registered, but as one of these was that of a case notified in 1907, the case mortality works out at 11 %. One death was that of a visitor, sent here to recuperate after an

attack of diphtheria, who died from post diphtheritic neuritis and cardiac failure. Three deaths occurred prior to my receiving notifications of the cases, the medical attendants having only been called in a few hours before death. In several other instances, owing to ignorance of the nature and gravity of the disease, skilled assistance was not requisitioned until too late to be of use.

As is usual in Diphtheria epidemics, a large number of cases of sore throats were known to be present. My information was first obtained from various doctors, and after the first cases the Teachers were instructed to notify me of all absences in which there was the possibility of sore throats being the cause. In this manner 181 cases were investigated, and several cases of diphtheria discovered in which no medical man was in attendance.

Incidence in Wards.—Cases were notified from every ward, Upton having the heaviest incidence, 45 cases occurring; next followed Ellacombe with 14, Strand 13, and Torre 9.

Schools affected.—Cases occurred in 13 Public Elementary Schools and three Private Schools. Naturally, the schools in which there were the greatest number of cases were situated in the wards most affected. The largest number were among the children attending St. James', where 25 cases occurred. I paid numerous visits to this school and examined many children, but was unable to detect any child likely to be spreading the complaint. On April 1st, I considered it advisable to order the school to be closed till after the Easter holidays; during the closure the school rooms were disinfected and colour-washed, and the drains tested. There were eight adult cases, and 14 children not attending school.

The following table shows the number of cases occurring in each school, and the wards in which they are situated.

Schools.	Ward.	No. of cases.
St. James'	Upton	25
Upton	Upton	10
Ellacombe	Ellacombe	8
Torre	Torre	6
Cockington	Chelston	5
Torwood	Torwood	4
Abbey Road R.C. ...	Waldon	3
St. John's	Strand	3
St. Luke's	Waldon	2
Babbacombe	Babbacombe	2
St Mary-Church ...	St. Mary-Church	1
Torquay National ...	Strand	1
Ilsham School ...	Babbacombe	1

Spot Map of Diphtheria Cases.

NOTE.—Numbers indicate sequence of cases.

INDEX—SCHOOLS.

- A. St. James' C.E.
- B. Upton C.E.
- C. Tor Parochial.
- D. Ellacombe C.E.
- E. Victoria Park.
- F. Pimlico C.E.
- G. St. Luke's C.E.
- H. St. John's C.E.
- I. Torwood C.E.
- J. Ilsham Parochial.
- K1. St. Mary-Church Boys'.
- K2. St. Mary-Church Girls'.
- L. St. Mary-Church Priory Roman Catholic.
- M. Babbacombe.
- N. Abbey Road Roman Catholic.
- O. Cockington C.E.
- P. Hele.

ST. MARYCHURCH WARD

TORRE WARD

UPTON WARD

ELLACOMBE WARD

TORQUAY

BABBACOMBE WARD

ANSTEY'S COVE

BABBACOMBE BAY

PIER

WALDON WARD

STRAND WARD

TORWOOD WARD

CHELSTON WARD

INNER HARBOUR

OUTER HARBOUR

Milk Supply.—There is absolutely no evidence implicating milk as a factor in the causation of the disease, cases occurring among the customers of almost every dairyman in the Borough, and in none was there an undue preponderance of cases.

From a full consideration of the histories of the cases, I can only come to the conclusion that personal infection has been the main factor in the continuance of the outbreak. From the large proportion of children of school age, I also believe that in most cases the infection has been contracted at school, indeed, there can be no doubt of this in many of the cases of children attending St. James'.

In a large percentage of the cases drainage defects were found. Although I do not believe that diphtheria can be directly caused by the inhalation of sewer air, yet there can be little doubt that it has a serious predisposing effect on those subjected to its influence.

As to how the disease was introduced is difficult to definitely say. There are many possible channels. During the summer and late autumn of 1907 there was a considerable amount of diphtheria in adjoining districts. Again, in a health resort such as Torquay we are particularly liable to introductions of such diseases ; for instance, one of our deaths was that of a visitor, who died from post diphtheretic paralysis and heart failure while here recuperating after an attack ; and further, this lad's mother had paralysis of the soft palate, and her case had never been notified. I have also heard of two other convalescents, one of whom undoubtedly infected two, if not more, of our cases. The history of this case is interesting. A nursemaid in service in Somerset had a severe attack of diphtheria there, and when convalescent came to Torquay for a change of air. When apparently well she consulted a medical man, who took a swab from the throat and had it bacteriologically examined, with negative results. She then returned to her place, but within a week two persons in the house were attacked, and a swab taken from the nasal discharge showed in the growth Klebs Loffleur bacilli. Two of our cases occurred in the house where she stayed, within a week of her arrival.

There is little doubt that the outbreak has been kept going through persons infected from undetected cases. Three medical men have told me of patients coming to consult them for post diphtheritic paralysis, and in one instance I found that practically five or six children in one family had had what the mother considered to be mumps, its true nature only being detected through a case of paralysis. In another instance a case of scarlet fever was

notified and was nursed by the mother at home, one other child in the house being sent to its grand parents. In a week or two's time the mother developed a bad throat, but treated it herself. After a time I was informed that the child was well and disinfection was carried out. Then the absent child returned home, but within the week developed diphtheria, and the mother was then found to be suffering from paralysis of the soft palate. One last instance is worth recording. Two sisters attending the same school returned after the summer holidays, and a fortnight later the younger developed a sore throat, remaining away from school for a fortnight without medical attention. She returned to school, but after a time had to consult a doctor on account of paralysis. About the same period her sister developed a sore throat, and it was reported as diphtheria. How many cases the first patient infected would be hard to say.

Steps taken to prevent spread.

On receipt of a notification I immediately visited the infected house, and endeavoured to secure the patient's removal to the Sanatorium. As soon as this was done the room was fumigated with formaline, and when opened the bedding removed and put through the steam disinfector. All children from infected houses being excluded from school for 14 days, the teachers being informed and asked to be on the look out for and to notify me of any suspicious cases. As I have already stated, this resulted in 181 visits being paid to suspicious cases and the detection of several true unrecognised cases. Notice of notification was also sent to the Librarian at the Free Library.

In every house where there was the slightest reason to believe there was anything wrong with the drains they have been tested, and in many cases defects proved. There has been no difficulty in getting these remedied. Many visits have been paid to the schools and children examined, in the hope of detecting cases likely to be infectious.

The Council have an arrangement with Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory, to examine swabs free for medical men in the Borough, and this has been taken full advantage of.

Antitoxine Treatment of Diphtheria.

Dr. Claude Ker, Medical Superintendent of the Edinburgh City Fever Hospital, in a recent paper on the treatment of diphtheria, states that : " Fifteen years ago the treatment of diphtheria

was practically ineffective. When we look back upon the methods usually employed at that time, we are sometimes inclined to wonder if the remedies in vogue did not actually increase rather than diminish the mortality of the disease. So far from the caustics and strong antiseptics which were freely applied to the throat, limiting the spread of the lesion, it is highly probable that by excoriating and depressing the power of resistance of the surrounding mucous membrane, they actually encouraged it. The mortality was high, indeed 30 per cent. must be regarded as a very moderate estimate of it. In a few years, however, the situation was entirely changed. The treatment of diphtheria, from being a reproach to medicine, became the model of what the scientific treatment of an infectious disease ought to be." In dealing with antitoxine, he further states that " It is true that, occasionally, voices are raised questioning its value. It will be found, however, that most of its critics have had but little experience of its employment. Every fair-minded man will, of course, admit that all the reduction in the mortality of diphtheria, since the introduction of antitoxine, is not due to its employment. Unquestionably, bacteriological diagnosis has caused the inclusion in our statistics of a certain number of cases which, fifteen years ago, would not have been classed as diphtheria." He then goes on to show that in dealing with the laryngeal form of the disease, which was as easy to diagnose then as now, the mortality of these has been reduced from well over 60 to something under 30 per cent., and that, not in one hospital, or even in one country, but practically all over the world, and almost simultaneously. Again, all who have had experience of diphtheria, both before and since the introduction of the serum treatment, must have been struck with the rarity of any marked spread of the false membrane after the injection of antitoxin. One last argument he gives in the following words: " Lastly, if, indeed, it is necessary to add anything further, the fact that the patient's chances of recovery steadily grow less with each day that the administration of serum is postponed, as is shown by innumerable statistical tables, should be enough to convince any ordinary person that, in antitoxin, we possess a genuine specific for the treatment of diphtheria."

Scarlet Fever.

One hundred and fourteen cases were notified, against fifty-three in 1907. There were no deaths. From the table giving the monthly notifications, it will be seen that until November there was nothing exceptional about its incidence. In the middle of October two cases occurred among the inmates of St. Mary's

Orphanage, and about a fortnight later two more. I then made an inspection of all children attending the Priory Roman Catholic School, and found three or four children in school desquamating. In spite of the isolation of these, the disease, of an extremely mild type, spread rapidly through the orphanage. The schools were then closed in the hope that the epidemic would be confined to the orphanage and prevent its spread through the town. This was happily effected, but several of the inmates of the adjoining convent and a private school were infected. In all about 80 cases occurred within the Priory.

Through the instrumentality of the Head Teachers' Notification, I have on several occasions detected cases of scarlet fever in all its stages among the children attending the elementary schools.

Of the 114 cases notified, 45 were removed to the Sanatorium.

When the epidemic was running its course in the St. Mary's Priory, it was utterly impossible for us to remove these cases, although the earlier cases were.

The age and sex distribution is as follows :—

	At all ages.	Under 1	1—5	5—15	15—25	25—65	Over 65
Males	22	—	5	16	1	—	—
Females	92	—	2	74	11	5	—

Enteric Fever.

Sixteen cases were notified, of which four terminated fatally. They were notified from eight of the nine wards. One was removed to the Sanatorium in Newton Road, and eight others were treated in the Torbay Hospital. In two instances there was distinct evidence fixing the infection to eating polluted shell-fish. In one the cockles were obtained at Bishopsteignton, where the patient was staying with her husband and child. After eating the cockles, patient's husband had a bilious attack, which he attributed to the cockles, and at the same time the child was very sick. Patient within three weeks developed a typical attack of enteric. In the other case patient obtained some cockles which were being hawked in the town ; these were scalded the same day and eaten cold on the two following days, after which she suffered from sickness. About a fortnight later she became very ill and a doctor

was called in, and in a day or so pronounced it enteric. This was a very severe case, and the nurse attending to her contracted the disease, which in her case terminated fatally. The usual notice was posted throughout the town, warning people against eating shell-fish.

No cases of Puerperal Fever were notified.

Bacteriological Diagnosis.

The bacteriological work for the Council is carried out by Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory. Medical practitioners are able to have suspected specimens examined without delay and free of cost.

During the year, 207 specimens were examined for the presence of the Diphtheria bacillus ; 23 gave positive results and 117 negative, while 67 were examined for freedom infection. Sixteen specimens were examined for the Widal reaction ; 7 gave positive results, 6 negative, while three were indefinite.

One sample of milk was examined for preservatives.

SANATORIUM REPORT

For the year ending March 31st, 1908.

To the Chairman and Members of the Sanitary Committee.

Gentlemen,

At the close of the financial year 1906-1907 there were seven patients under treatment in the Sanatorium, and from then till March 31st, 1908, sixty-four new cases were admitted, making a total of seventy-one cases treated during the year.

There were thirty-nine cases of Scarlet Fever, with one case admitted for observation ; twenty-seven Diphtheria, with one admitted for observation ; one Enteric and two cases of Measles.

The patients were in hospital a total of 2,290 days, giving an average stay of 32·2 days.

Fifty-five of the patients were discharged cured, three ended fatally, while thirteen remained under treatment at the end of the year.

The new Ambulance, built by Messrs Edwards and Sons, has now been in use for almost two years. It has proved most satisfactory in every way, and patients speak highly of its smooth running.

The following table shows the cost of working for the twelve months :—

Expenditure.	£	s.	d.
Diet of Patients	153	1	6
Wages and Diet of Nurses	139	15	3
,, ,, Laundress	59	3	6
Curator	64	10	0
Surveyor's Account	11	19	2
Tradesmen's Accounts	36	9	10
Rents, Rates, and Insurance	17	1	1
Drugs	4	17	5
Medical Fees	50	8	0
Conveyance of Patients	13	1	0
Oil	13	10	0
Coal, Coke, and Wood	66	16	3
Rent of Telephone	10	10	0
Disinfecting	5	0	6
	£646	3	6

A sum of £32 4s. 3d. was received for the use of the private ward.

The following table gives the cost of this and previous years :—

			£	s.	d.
1898.	30	Patients cost	493	13	2
1899.	35	,, ,, ...	513	14	11
1900.	42	,, ,, ...	564	2	10
1901.	26	,, ,, ...	515	15	11
1902.	58	,, ,, ...	903	6	6
1903.	26	,, ,, ...	570	12	5
1904.	24	,, ,, ...	484	11	1
1905.	27	,, ,, ...	507	5	0
1906.	36	,, ,, ...	541	13	7
1907.	46	,, ,, ...	616	12	2
1908.	71	,, ,, ...	646	3	6

Cockington Sanatorium.

During the year it was not necessary to utilise this building, but it was kept in readiness so that patients could be received at the shortest notice.

Its cost of maintenance is as follows :—

	£	s.	d.
Caretaker	5	0	0
*Rents, Rates, Taxes	77	15	11
	£82	15	11

* Payments of these half-yearly rents were made during the year.

I have again pleasure in recording my appreciation of the manner in which Mr. and Mrs. Arnall and Nurse Hunt have carried out their duties.

I am, Gentlemen,

Your obedient servant,

THOMAS DUNLOP,

Medical Superintendent.

Working of the Midwives Act, 1902.

This Act is administered by a Committee of the County Council, who have appointed me their local inspector.

There are seven midwives on the local register, the same as in 1907. I have regularly visited them at their own homes, inspecting their register of cases and bags of appliances.

Elementary Schools.

Matters pertaining to this subject are dealt with in the special report to the Education Authority.

DEATHS.

During 1908 the number of deaths registered in the Borough was 580—males, 280; females, 300.

The gross death-rate is therefore equal to 17 per 1,000. If it was permissible to eliminate the deaths of 46 visitors, the rate

would be equal to 15·7 per 1,000. To obtain the corrected death-rate, it is necessary to add the deaths of 36 persons occurring in the Newton Abbot Workhouse who belong to Torquay, and five deaths that took place in the Torquay Isolation Hospital, and subtract the deaths of 19 non-residents dying in public Institutions in the town. The corrected total would therefore be 602, which equals a rate of 17·6 per 1,000 per annum.

The following table gives the Torquay death-rates for recent years, compared with those in England and Wales for corresponding years :—

Year.	Number of Deaths.	Death-rate.	Death-rate excluding deaths of Visitors.	Death-rate of England and Wales.
1901	476*	14·1	12·9	16·9
1902	491*	14·6	13·3	16·3
1903	448	13·3	11·5	15·4
1904	482	14·2	12·4	16·2
1905	491	14·5	12·6	15·2
1906	499	14·6	13·5	15·0
1907	529	15·5	14·2	15·0
1908	602	17·6	16·3	14·7

* No record kept of deaths in Newton Workhouse of Torquay residents.

If the Torquay death-rate is corrected for sex and age distribution to make it comparable with that for England and Wales, it would be equal 14·15 per 1,000 per annum. During the year there were 30 inquests held, and 3 deaths were uncertified.

Deaths at Various Age Periods.

Of the total of 602 deaths—		Percentage of total deaths.
75 were under 1 year of age ...	... equals	12·3
24 ,, 1 year and under 5 years	... ,,	4·0
27 ,, 5 years ,, 15 ,,	... ,,	4·5
27 ,, 15 ,, ,, 25 ,,	... ,,	4·5
180 ,, 25 ,, ,, 65 ,,	... ,,	30·0
269 over 65 years	... ,,	44·7
Total 602 at all ages.		100·0

The deaths in the various wards are given on Table II., on page 42.

It will be seen from the above table that 269, or almost 45 per cent. of the total deaths were those of persons aged 65 and over, one hundred and eighteen being aged 65 to 75, one hundred and eight 75 to 85, forty-two 85 to 95, and one over 95.

Infantile Mortality.

There were 75 deaths under one year, twenty-three more than in 1907. As there were 524 births registered, the infantile mortality is equal to 143 per 1,000 births. The rate for England and Wales during 1908 was 121, and that for the 142 small towns 124.

The following table gives the causes of death among infants for the past five years :—

	1908.	1907.	1906.	1905.	1904.
Measles	0	2	0	5	1
Whooping Cough ...	2	1	1	3	1
Influenza	1	0	0	0	0
Diarrhœa	20	8	16	7	11
Tubercular Diseases ...	4	0	0	1	0
Bronchitis	7	6	3	4	10
Pneumonia	5	3	4	5	2
Premature Birth ...	12	8	16	11	18
Accidents	0	0	0	0	0
All other causes ...	24	24	21	17	21
Totals ...	75	52	61	53	64

Fuller particulars giving exact details as to cause of death and the age, stated in weeks and months, under one year, are given in Table V., page 45.

The increased number of deaths is for the most part accounted for by the deaths from diarrhœa. The continued dry weather during July and August must be held responsible for its production.

The Causes of Death.

The Local Government Board Table IV. gives the causes and ages at death. *Vide* page 44.

Deaths from Zymotic Diseases.

The Zymotic death-rate is calculated from the number of deaths due to the seven principal zymotic diseases. The following table gives them and the deaths recorded from each :—

Small-pox		0
Measles		0
Whooping-cough		6
Scarlet Fever		0
Diphtheria		12
Fevers { Typhus, Enteric, Continued } ...		4
Diarrhœa		21
	Total	43

The Zymotic death-rate for the year is equal to 1·2 per 1,000, compared with ·73 per 1,000 in 1907. The main increase is due to the deaths from diarrhœa and diphtheria. This last subject is fully dealt with on pages 18—23. The rate for England and Wales in 1908 was 1·29 per 1,000.

Small-pox.

There were no cases, and consequently no deaths.

Measles.

After the epidemic in 1907, we were happily free from this disease during the year.

Whooping Cough.

There have been cases in various parts of the Borough throughout the year. In April it seriously affected the attendance at Cockington Infants' School and, on my certifying that it was due to this, the Managers closed that department. There were six deaths registered.

Chicken-Pox.

A few cases occurred in the early part of the year in St. Mary-Church ward.

Mumps.

The district continued free from this complaint.

Influenza.

Thirteen deaths from Influenza were registered, all except one being those of persons in adult life.

Diarrhœa and Enteritis.

There were 21 deaths from Zymotic diarrhœa, and five from Enteritis. This is an increase over the numbers in 1907. An inference is drawn as to the cause, under Infantile Mortality, as diarrhœa was responsible for the increase in that rate.

Phthisis and Tubercular Diseases.

The total number of deaths from phthisis was 74, of whom 17 were visitors. As 13 of these died in public institutions, they must be deducted as non-residents; but we must also add the deaths of four Torquay residents who died in the Newton Abbot Workhouse, so that the total for the year is 65, against 30 in 1907.

The rates per 1,000 for the past five years are as follows —

1908	1907	1906	1905	1904
1·9	0·88	1·38	1·32	1·21

Almost half the total deaths from phthisis occurred during the first four months of the year, which may be accounted for by the exceptional amount of cold east wind experienced then.

Other forms of tubercular disease accounted for 14 deaths.

Once again I have to record the absolute failure of the system of voluntary notification of phthisis adopted by the Council in 1906, only one or two notifications being received. It is possible that the Public Health (Tuberculosis) Regulations, 1908, by which every Poor Law Medical Officer and every Relieving Officer are bound to report to the Medical Officer of Health all cases coming to their notice, may enable us to trace and follow up cases. I still hold no method will prove satisfactory until the notification of the disease is compulsory, and I cannot anticipate any difficulty if it is carried out on similar lines to those adopted in Sheffield.

In Torquay the Town Council have recognised the importance of dealing efficiently, as far as lies in their power, with cases of phthisis. The steps taken may be summarised as follows:—

1. Free disinfection of rooms after death of consumptives and, where aware of it, of rooms recently occupied by them.
2. The framing of a bye-law prohibiting spitting in places of public resort.
3. Distribution of educational leaflets by such agencies as are likely to reach those for whom they are intended.

They have, also, by posting up notices on lamps and other places in parts of the town frequented by consumptives, endeavoured to stop the objectionable and dangerous habit of spitting.

Cancer.

Cancer was responsible for 60 deaths, of whom two were inmates of the Newton Abbot Workhouse and three were visitors. In dealing with such a disease as cancer, which is essentially a disease affecting people in the prime and latter part of life, and more especially females, it must be remembered that communities such as Torquay, whose population have a larger proportion of such people than the country generally, will suffer more severely.

The death-rate from cancer in Torquay during 1908 was 1·7 per 1,000 per annum. If this rate is corrected for age and sex distribution, to make it comparable with that for England and Wales, it would equal to 1·4 per 1,000 per annum.

Age and Sex Distribution of Cancer Deaths.

	under 30	30—35	35—45	45—55	55—65	65—75	over 75	Totals
Males	1	0	2	2	3	5	5	18
Females	0	2	0	6	15	9	10	42
Total	1	2	2	8	18	14	15	60

The following table gives the chief headings under which deaths from cancer occurred :—

Registered Deaths from Cancer (Malignant Disease).

Seat of Disease.	Sarcoma.		Carcinoma.		Malignant Disease or Cancer.		Total.
	M.	F.	M.	F.	M.	F.	
Face, Jaw, Tongue	2	0	1	0	1	0	4
Throat and Thorax	0	0	0	0	0	1	1
Oesophagus	0	0	0	1	0	0	1
Stomach and Pyloris	0	0	2	2	0	0	4
Liver and Pancreas	0	0	3	2	1	5	11
Intestines (excluding Rectum) ..	0	1	1	1	0	2	5
Rectum	0	0	4	0	2	2	8
Breast	0	0	0	8	0	3	11
Uterus and Appendages ..	0	0	0	6	0	5	11
Parts not specified	0	1	0	1	1	1	4
Totals	2	2	11	21	5	19	60

SANITARY WORK, 1908.

There have been no changes in the staff of the Sanitary Department during the year. Full details of the work carried out by the Sanitary Inspectors are contained in their reports, which are appended.

Slaughter Houses.

There are eight slaughter-houses in the Borough. Four are registered, one has a perpetual license, while three require to be licensed each year.

I have inspected them several times during the year, and on the whole found them kept clean and in a satisfactory condition. The Local Government Board's model bye-laws have been adopted by the Council. They enable us to have the buildings regularly limewashed, and enforce other matters of cleanliness.

I have pleasure in recording, that Mr. Smith, the Sanitary Inspector for St. Mary-Church, has, during the year, passed the Meat Inspectors' Examination of the Royal Sanitary Institute. It is fortunate that the majority of the slaughter-houses are in his district, but as there are several in other parts of the town, and a large proportion of the meat is brought in by rail, I think it would be most desirable for the Sanitary Committee to consider how it would be possible to utilise his experience in the more efficient examination of both our meat and fish supply.

Sale of Food and Drugs Act.

Samples are taken by the County Police. The following is a summary of their action under the Act :—

No. of Samples	Articles for Analysis.	Result of Analysis.	Result of Summoned Cases.
6	Butter	Genuine	
6	Golden Syrup	Genuine	
1	Milk	Deficient in milk fat	Vendor summoned — dismissed with a caution
1	Butter	Adulterated with 50 % fat other than butter fat	Vendor summoned — fined £10 inclusive
1	Milk	Deficient in milk fat to the extent of 40 %	Vendor summoned — fined £5 inclusive
1	Milk	Genuine	
1	Milk	Deficient in milk fat to the extent of 6·7 %	Vendor cautioned by the Police
17	Milk	Genuine	
2	Milk	Genuine	
1	Milk	Govt. Analyst's certificate declared 47 % deficient in milk fat	Vendor summoned — fined £12 3s. inclusive
5	Milk	Genuine	
4	Whisky	Genuine	
4	Brandy	Genuine	
4	Gin	Genuine	
1	Skimmed Milk	Genuine	
1	Skimmed Milk	19·23 parts added water in every 100 parts	Vendor summoned — fined 20s. inclusive
1	Skimmed Milk	39·45 parts added water in every 100 parts	Vendor summoned — fined 25s. inclusive
3	Skimmed Milk	Genuine	
1	Milk	12 parts added water in every 100 parts, and deficient in milk fat 5 %	Vendor summoned — fined 25s. inclusive
1	Milk	14·83 parts added water in every 100 parts	Vendor summoned — fined 20s. inclusive
3	Milk	Genuine	
1	Skimmed Milk	Genuine	
6	Milk	Genuine	
72			

Milk Supply.

There are 99 registered dairymen and cowkeepers in the Borough, most of whom receive milk from farms situated outside,

Some ten years ago a system of inspecting not only the cowsheds in the Borough, but those outside which send milk to Torquay, was decided on, and has since then been carried on regularly twice a year.

Particulars are obtained of the condition of the cowsheds as to cleanliness, lighting, ventilation, and paving; the washing of milk vessels; cleanliness of dairies, etc.; the water supply as regards its freedom from pollution; and the number and condition of the cows being milked.

After these inspections a complete register is compiled of all dairies and cowsheds in the Borough, together with the farms outside which supply them with milk, etc. The register is printed in the form of a bill, and is posted up throughout the town, copies being forwarded to all dairymen and farmers concerned. Such bills are a guarantee that we are satisfied with the sanitary state of the places inspected, and is in force for six months. Thus two thorough inspections are made each year.

Although this periodic inspection cannot guarantee that the cowsheds, etc., are constantly kept as they ought to be, yet it ensures that at least twice a year they get a thorough cleaning and limewashing, which in many instances would not be done if the visits were not made. It is also frequently possible for us to get owners to substitute brick or concrete for defective cobble paving, which reduces the difficulty of cleaning to a minimum. Again, by this system we know precisely what farms supply the various town purveyors, and have a full knowledge of the farm, water supply, and other details, which are of immense value when investigating the source of infectious disease.

A point that apparently receives too little attention from the farmers is the proper grooming of the cows, the cleansing of their udders and the hands of the milkers. Too much faith is put in the efficiency of the strainer.

There are indications at last that those responsible for the production of our milk are being aroused, if not to the necessity, at least to the advantages of being able to advertise that their cows have been examined and found free from tuberculosis. I recently pointed this out to a dairyman who was making enquiries about the tuberculine test. If this was done by one dairyman there is little doubt that others would soon follow his example.

In South Devon, where it is possible to keep cows in the open air, night and day, for the greater portion of the year, tubercular disease in cattle should be less prevalent than in other places where the climatic conditions are less favourable.

Ice Cream.

There are two manufacturers of ice cream which is sold from barrows. Their premises were inspected, and were found to be clean and apparently well looked after.

Factory and Workshops' Act.

Details of the working of this Act will be found in the reports of the Sanitary Inspectors. Endeavours are made to inspect each workshop once a year, but it is not always possible to accomplish. I have visited a considerable number of those on the list with the Inspectors. The number of outworkers in Torquay is very small, and all are engaged in the making of wearing apparel; much difficulty is experienced in obtaining lists of outworkers which employers are bound under penalty to send in to the Authority twice a year, once in February and once in August. I have a printed circular which is sent a day or so after the notices should have been received, drawing employers' attention to this provision of the Act, and yet in many cases it requires a special visit in order to obtain the necessary information. Many outworkers are engaged in business on their own account, and their premises, as well as those of others working in their own homes, were found to be satisfactory. No case of infectious disease has been reported on outworkers' premises. Where outworkers resided in other districts, notices with names and addresses were sent to the Authorities of those districts.

A very large proportion of the workshops on the register are domestic laundries, where in most instances only a few women are employed. They are on the whole kept clean and limewashed.

Bakehouses.

I make a point of inspecting all these premises with the Inspectors. There are 54 on the register. Two have certificates as satisfactory underground bakehouses. I have had no complaint to make about their condition. Occasionally lime-washing is required, but this is at once done when requested.

Offensive Trades.

There is only one tripe boiling establishment in the Borough. It is situated at the upper end of Upton. The building is specially adapted for the purpose, and is always found clean and well looked after. The marine stores, although not classed as offensive trades, were inspected regularly. There is always a danger of them storing too large a quantity of bones, etc., which are at times offensive.

Common Lodging Houses.

There are six registered common lodging houses. They are regularly inspected and found in a fairly satisfactory condition, but require regular supervision to keep them up to the mark. One lodging house has been closed, but the owner has opened another in a different district. This house was thoroughly inspected and the drainage tested before being registered.

Housing of the Working Classes.

The members of the working classes are on the whole well housed. A considerable improvement is being effected in certain tenement houses off Pimlico known as Spring Place. One house has been removed, a row of four cottages made into three, and the whole of the sanitary arrangements reconstructed.

Port Sanitary Inspection.

In March, Dr. Reece, one of the Local Government Board's Medical Inspectors, visited Torquay, in the course of a survey of English Ports, for the purpose of ascertaining the provision made by the various Authorities for dealing with the possible introduction of Cholera, Plague, &c. He met a number of members of the Council and various Officials. After making his investigations, he pointed out the possible dangers of the introduction of Cholera, and suggested various lines of action. He pointed out that the sanitary inspection of vessels calling at Torquay had not been carried out as a routine duty, and stated that in future the Board would insist on this being done. He requested the Council to consider the subject, and make the necessary arrangements. After several meetings, when the results of enquiries from a number of Port Sanitary Authorities were laid before the Committee, it was decided that Mr. Watson should carry out the work under the Medical Officer of Health. We then visited Dartmouth and met the Port Medical Officer and Inspector, who gave us every information as to their methods and the records kept. Since that date (September) the work of inspection has been regularly carried out, as will be seen from Mr. Watson's report. The Harbour Master has been instructed to notify us of the arrival of all vessels, when they are inspected by one or both of us. During the year no case of illness has been reported from any vessel entering the Port. The average number of vessels arriving from foreign ports during the past four years is 15 per annum.

The Granting of Sanitary Certificates by the Corporation.

The number of Certificates granted in this and previous years is as follows :—1908, 93 ; 1907, 65 ; 1906, 60 ; 1905, 66 ; 1904, 89 ; 1903, 66. It is thus seen that year by year a large number of large houses (certificates seldom demanded in small houses) are brought up to date as regards their sanitary requirements. In my opinion no intending tenants should be satisfied unless they receive a certificate of recent origin.

The administration of the Factory and Workshop Act, in connection with FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Premises.	Number of		
	Inspections.	Notices.	Prosecutions.
FACTORIES .. .. (Including Factory Laundries)	—	—	—
WORKSHOPS .. .. (Including Workshop Laundries)	305	40	Nil
WORKPLACES .. .. (Other than Outworkers' premises included in Part 3 of this Report.)	3	—	—
Total			

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	29	29	—	—
Want of ventilation	0	0	—	—
Overcrowding	6	6	—	—
Want of drainage of floors	2	2	—	—
Other nuisances				
† Sanitary accommodations (insufficient .. .. / unsuitable or defective .. / not separate for sexes ..)	3	3	—	—
Offences under the Factory & Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)				
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)				
Other offences .. .. (Excluding offences relating to outwork which are included in Part 3 of this Report.)				
Total	40	40	—	—

* Including those specified in Sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

† For districts not in London state here whether section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the District Council; and if so what standard of sufficiency and suitability of sanitary accommodation for persons employed in factories and workshops has been enforced.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.								Number of Inspections of Outworkers' premises.	OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.				Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.								
	Twice in the year.		Once in the year.				Failing to keep or permit inspection of lists.	Failing to send lists.		In-stances.	Notices served.	Prosecutions.	In-stances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
	Lists*	Out-workers.*	Lists.	Out-workers.											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	12)	(13)	(14)	(15)	(16)
Wearing Apparel— (1) making, &c. .. (2) cleaning and washing ..	24	56	—	—	—	6	—	—	25	—	—	—	—	—	—
Lace, lace curtains, and nets															
Furniture and Upholstery															
Fur Pulling															
Umbrellas															
Paper Bags & Boxes															
Brush making ..															
Stuffed Toys ..															
File making															
Electro Plate ..															
Cables and Cha ns ..															
Anchors & Grapnels															
Cart Gear															
Locks, Latches, and Keys															
Total	24	56	—	—	—	6	—	—	25	—	—	—	—	—	—

* The figures required in columns 2 and 3 are the total number of lists received from employers who sent them both in February and August as required by the Act and of the entries of names of outworkers in those lists. They will, therefore, usually be double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1908 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	Births.		Total Deaths Registered in the District				Total Deaths in Public Institutions in the District.	Deaths of Non-Residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at All Ages belonging to the District.	
				Under 1 year of age		At all ages.						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1898.	33400	626	18·7	83	132	529	15·5	50	70†		459	13·7
1899.	33500	573	17·0	84	143	570	17·0	31	49†		529	15·5
1900.	33600	559	16·6	70	124	488	14·5	41	58†		430	12·8
1901.	33625	556	16·5	70	125	504	15·0	51	28		476	14·1
1902.	33625	540	16·0	84	155	529	15·7	63	38		491	14·6
1903.	33800	536	15·9	51	95	455	13·4	57	28	21	448	13·3
1904.	33850	530	15·7	64	120	473	13·9	42	20	29	482	14·2
1905.	33900	522	15·4	50	101	473	13·9	46	12	31	491	14·5
1906.	33950	566	16·6	61	107	478	13·9	50	19	43	499	14·6
1907.	34000	537	15·8	52	97	519	15·3	54	18	28	529	15·5
Averages for years 1898—1907.	33725	554	16·4	70	120	502	14·8	48	34	—	483	14·2
1908.	34050	524	15·4	73	139	580	17·0	48	19	41	602	17·6

* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

† Include deaths of all visitors.

TABLE II.

VITAL STATISTICS OF SEPARATE LOCALITIES IN 1904-5-6-7-8.

LOCALITIES.	Population Census 1901.	1904.			1905.			1906.			1907.			1908.		
		Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
Torre ...	3851	50	51	5	50	76	4	49	58	4	54	69	2	56	89	8
Waldon ...	3576	42	45	4	39	42	4	41	37	3	36	44	5	29	49	3
Upton ...	4339	92	84	13	87	63	8	100	84	14	92	75	8	92	78	11
Ellacombe...	5911	241	82	16	118	82	13	132	80	18	123	91	11	129	105	24
Strand ...	3129	51	50	11	52	43	5	52	41	9	54	56	13	53	63	13
Torwood ...	3644	21	51	2	27	37	0	37	51	4	27	53	0	34	50	4
St. Mary-Church	3312	47	49	6	62	52	7	48	53	6	57	52	5	57	55	4
Babbacombe	3264	63	36	4	52	46	7	58	39	1	50	39	5	43	58	2
Chelston ...	2599	34	25	3	30	31	2	37	32	1	30	40	3	25	33	4
The Borough	33625	524	473	64	517	472	50	554	475	60	529	519	52	518	580	73

NOTE.—This table only includes deaths and births registered in the district.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1908.

NOTIFIABLE DISEASE.	Cases notified in whole district.							Total cases notified in each locality.									No. of cases removed to hospital fr'm each locality									
	At all ages.	At Ages—Years.						Torre	Waldon	Upton	Ellacombe	Strand	Torwood	S. Marych.	Babc'mbe	Chelston	Torre	Waldon	Upton	Ellacombe	Strand	Torwood	S. Marych.	Babc'mbe	Chelston	Total cases removed to Hospital.
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards																			
Small-pox ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Cholera ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Diphtheria,incl'd'g Membranous croup	99	—	21	70	4	4	—	11	4	42	15	13	5	2	2	5	7	3	35	11	12	5	2	1	4	80
Erysipelas ..	3	—	—	—	—	3	—	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	—
Scarlet fever ..	114	—	10	88	12	4	—	5	2	6	16	3	2	72	6	2	5	2	6	13	2	2	10	6	2	48
Typhus fever ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Enteric fever ..	16	—	—	4	3	9	—	2	1	4	1	1	1	2	4	-	2	1	3	-	1	-	1	1	-	9
Relapsing fever ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Continued fever ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Puerperal fever ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Plague ..	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	—
Totals ..	232	—	31	162	19	20	—	18	7	53	32	18	9	76	12	7	14	6	44	24	15	7	13	8	6	137

NOTES.—The localities adopted for this table are the same as those in Tables II. and IV.

Isolation Hospital:—Newton Abbot Road, outside the Borough.

CAUSES OF DEATH.	Deaths at the subjoined ages of Residents whether occurring in or beyond the District.							Deaths at all ages of Residents belonging to Localities, whether occurring in or beyond the District.									Total Deaths whether of Residents or non Residents in Public Institutions in the District
	All ages.	under 1	1 and under 5	5 and under 15.	15 & under 25.	25 & under 65.	65 & upwards	Torre.	Waldon	Upton.	Ellacombe.	Strand.	Torwood	S. Mary-Church.	Babbacombe.	Chelston	
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping-cough ..	6	2	4	—	—	—	—	—	1	—	2	2	—	1	—	—	—
Diphtheria and Membranous croup	12	—	3	8	1	—	—	1	2	6	1	1	—	—	—	1	—
Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever { Typhus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever { Enteric ..	4	—	—	—	2	2	—	—	—	3	—	—	—	—	1	—	3
Fever { Other continued	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Epidemic influenza ..	13	1	—	—	—	7	5	2	—	2	4	—	1	3	1	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhœa	21	20	1	8	—	—	—	1	—	4	6	5	—	1	1	3	—
Enteritis	5	—	1	—	—	2	2	1	1	1	1	—	—	—	—	1	—
Puerperal fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phthisis (Pulmonary Tuberculosis)..	65	—	—	1	16	39	9	9	4	8	15	9	2	8	7	3	14
Other tubercular diseases	14	4	1	4	—	5	—	3	—	2	3	—	—	—	3	3	1
Cancer, malignant disease	60	—	—	1	—	30	29	12	4	8	8	5	7	3	9	4	2
Bronchitis	50	7	1	—	—	7	35	7	5	6	9	7	3	6	5	2	—
Pneumonia	24	5	4	2	1	4	8	3	1	4	6	2	1	4	2	1	4
Pleurisy	2	—	—	—	—	1	1	1	—	—	1	—	—	—	—	—	1
Other diseases of respiratory organs ..	9	—	—	—	1	1	7	2	1	—	3	1	—	1	1	—	—
Alcoholism } Cirrhosis of liver } ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Venereal diseases ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Premature birth	12	12	—	—	—	—	—	3	1	2	4	1	1	—	—	—	—
Diseases and accidents of parturition	2	1	—	—	—	1	—	—	—	1	—	—	1	—	—	—	—
Heart diseases	25	—	—	2	—	10	13	3	2	2	3	6	3	5	1	—	2
Accidents	10	—	1	—	1	6	2	1	—	1	1	1	—	1	4	1	7
Suicides	4	—	—	—	1	3	—	—	—	1	1	1	—	—	1	—	1
All other causes.. ..	264	23	8	9	4	62	158	42	29	31	42	28	22	28	26	16	13
All causes	602	75	24	27	27	180	269	91	51	82	110	69	41	61	62	35	48

TABLE V.

INFANTILE MORTALITY DURING THE YEAR 1908.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.		Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month.	1—2 Months.	2—3 Months.	3—4 Months.	4—5 Months.	5—6 Months.	6—7 Months.	7—8 Months.	8—9 Months.	9—10 Months.	10—11 Months	11—12 Months	Total Deaths under One Year.
ALL CAUSES.	Certified	12	3	6	4	25	6	4	7	6	6	3	5	6	-	1	3	72
	Uncertified	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1
Common Infectious Diseases.	Small-pox	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Chicken-pox	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Measles	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Scarlet Fever	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Diphtheria: Croup	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Whooping Cough	-	-	-	-	—	-	-	-	-	1	1	-	-	-	-	-	2
Diarrhœal Diseases.	Diarrhœa, all forms	-	-	2	1	3	2	-	4	1	-	1	2	2	-	-	2	17
	Enteritis, Muco-enteritis, Gastro-enteritis	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Gastritis, Gastro-intestinal Catarrh	-	-	-	-	—	-	1	-	1	1	-	-	-	-	-	-	3
Wasting Diseases.	Premature Birth	9	-	2	1	12	-	-	-	-	-	-	-	-	-	-	-	12
	Congenital Defects	2	2	1	-	5	-	-	-	-	-	-	-	-	-	-	1	6
	Injury at Birth	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Want of Breast-milk, Starvation	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Atrophy, Debility, Marasmus	-	-	1	-	1	2	2	-	1	1	-	-	-	-	-	-	7
Tuberculous Diseases.	Tuberculous Meningitis	-	-	-	-	—	-	-	-	-	-	-	-	1	-	-	-	1
	Tuberculous Peritonitis: Tabes Mesenterica	-	-	-	-	—	-	-	1	1	-	-	1	-	-	-	-	3
	Other Tuberculous Diseases	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
Other Causes.	Erysipelas	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Syphilis	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Rickets	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Meningitis *(not Tuberculous)*	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Convulsions	-	1	-	2	3	-	-	-	-	-	-	1	2	-	-	-	6
	Bronchitis	-	-	-	-	—	1	1	1	2	1	-	1	-	-	-	-	7
	Laryngitis	-	-	-	-	—	-	-	-	-	1	-	-	-	-	-	-	1
	Pneumonia	-	-	-	-	—	-	-	-	-	1	1	-	-	-	1	-	3
	Suffocation, overlaying	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Other Causes	1	-	-	1	2	1	-	1	-	-	-	-	1	-	-	-	5
		12	3	6	5	26	6	4	7	6	6	3	5	6	-	1	3	73

District (or Sub-Division) of NEWTON ABBOT.

Births in the year { legitimate - 503. / illegitimate - 21.

Deaths from ALL CAUSES AT ALL AGES, 602.

POPULATION.

Estimated to middle of 1908.

34050.

Borough of Torquay.

Sanitary Inspectors' Reports.

Chief Sanitary Inspector's Report.

Town Hall Chambers,
15th February, 1909.

To the Worshipful the Mayor, Aldermen, and Councillors of the Borough of Torquay.

Gentlemen,

I beg to present my Thirty-first Annual Report to you as the Urban Sanitary Authority, the first having been laid before the Local Board of Health in the year 1879.

The work of the past year was very similar in nature to that of previous years, though there were no large or considerable buildings demanding my examination, presumably all those in the Torre, Waldon, Chelston, and portions of the Upton Wards—which are under my direct and immediate supervision—have been in the long course of my experience inspected, overhauled, and brought up to the modern sanitary standard.

Only thirty-two Sanitary Certificates or reports were applied for, and of these one-half were for houses, many of them business premises, which the owners had voluntarily put in the requisite sanitary condition to obtain a Sanitary Certificate, and they requested my testing and approval.

Of four hundred and ninety cases on the books for the year, there were seventy-five thorough house inspections, entailing the application of one hundred and thirty-seven tests of various kinds,

I submit the following tabulated statement of the type of work which was carried out in the various premises that came under my investigation :—

37	New sanitary conveniences to replace old ones.
37	Flushing cisterns, chiefly of three gallons capacity.
25	Ventilating shafts for soil pipes, etc.
57	Intercepting traps on drainage systems.
88	Inspection chambers, ditto, with fresh air inlets.
27	Mason's traps were abolished.
1	Cesspool filled in.
34	Blocked drains cleaned and put in working order.
8	Yards were paved and drained.
219	Premises were limewashed or disinfectants supplied.
2	Ashbins provided in lieu of foul ashpits.
16	Accumulations of foul matter removed.
2	Damp houses remedied and rendered habitable.
47	Rooms, bedding, etc., fumigated, 13 being after phthisis.
2	Overcrowding cases were abated.
4	Legal notices were issued after letters had been written.
1	Preliminary notice, and
283	Letters and communications on the business of the department, as compared with 222 in 1907.

Bakehouses Inspection.

Sixteen bakehouses were inspected, the majority being found quite satisfactory ; three only required the customary limewashing, which was subsequently done.

Workshops and Work-places.

The examination of workshops and workplaces was more extensively done than in the previous year, nearly one hundred visits having been paid to the eighty-five premises under my charge. The bulk were found in good order, but it was necessary to give notice to twelve persons to deal with unsanitary conditions found, viz., one of overcrowding, sixteen work-people being discovered where only thirteen were officially allowed ; two for sanitary conveniences being out of order ; and nine as requiring cleansing or limewashing.

These matters have now been attended to. Generally speaking, these inspections have operated well in ensuring more cleanly, comfortable, and endurable conditions for the work-people.

The classification of the workshops and work-places is as follows :—

8	Painters and Plumbers.	1	Picture-frame maker.
7	Builders and joiners.	7	Coachbuilders.
22	Dressmakers and milliners	4	Watchmakers.
3	Cabinet-makers and upholsterers.	2	Marine stores.
6	Laundresses.	2	Printers.
2	Wheelwrights.	1	Marble mason.
2	Saddlers.	2	Photographers.
9	Tailors.	1	Bootmaker.
1	Trunkmaker.	1	Bath chair maker.
1	Knitting shop.	3	Shoeing smiths.

In the case of the milliners, dressmakers, tailors, and coach-builders, several workshops or rooms had to be inspected in each premises, many requiring measuring cubic space to detect over-crowding.

Cowsheds, Milkshops, and Dairies.

The cowsheds outside the Borough, numbering nine, situate in Cockington, were inspected twice during the year, and were found in much improved condition, the limewashing evidently being quite fresh. One in Torquay itself was very clean and well ventilated.

Twenty-one milkshops and dairies were also visited in summer and winter; and I found no cause to complain, the majority being kept exceptionally clean and enticing.

Common Lodging House.

Application was made to grant a license as a common lodging house, for premises disused as a fisherman's club. A strict survey of the whole premises was made, viz., of the drains, sanitary arrangements, and the rooms measured.

It was found that accommodation sufficient for thirty-three persons existed, and the place being found in every way suitable, was duly licensed for that number.

I beg to remain,

Your obedient Servant,

CHARLES MacMAHON,

C.R. San. Inst.. Asso. Mem. B.Inst. P. Health;
Chief Sanitary Inspector.

SANITARY INSPECTOR'S REPORT.

Town Hall Chambers,

Arcade, Torquay,

18th January, 1909.

To His Worship the Mayor and to the Aldermen and Councillors of the Borough of Torquay.

Gentlemen,

I have pleasure in presenting this my Eleventh Annual Report to the Council for the year ending December 31st, 1908, dealing with that portion of the Borough under my direct supervision, viz., the wards of Torwood, Strand, Upton, and Ellacombe.

Complaints.

One hundred and eighty-five houses and premises have been visited on receipt of complaint, or by request; and in connection with same, ninety-five smoke and forty-two hydraulic tests applied to the drains in various instances.

One hundred and forty-four notices were served to abate the nuisances found, and of these one hundred and thirty-six were of a preliminary nature and eight legal; in no instance was it found necessary to take proceedings.

In connection with the notices served, one hundred and two visits of inspection were made to premises where work was in progress; and also two hundred and eighty-seven smoke and ninety-eight hydraulic tests applied to the drains in various instances.

Sanitary Certificates.

Upon application being made by owners or occupiers for Sanitary Certificates, forty houses were examined and reported upon, and on completion of such work as was found necessary to comply with the Council's requirements, the Certificates were granted in thirty-nine instances.

The 10s. testing fee was paid in each case—a total of £20. This is an increase of £9 10s. over the amount received last year.

In connection with this work, one hundred and eighteen smoke and sixty-nine hydraulic tests were made, and seventy visits of inspection paid while the work was in progress.

Details of Operations for Abatement of Nuisances.

54	New sets of house drains laid.
34	Defective house drains repaired.
2	Old masonry drains found and abolished.
44	Intercepting traps with fresh air inlets fixed.
22	Old mason's traps abolished.
123	Inspection chambers to drains built.
42	Drains ventilated at head of system.
45	New sanitary conveniences with water supply fixed.
14	Soil pipes fixed outside buildings and ventilated.
59	Old iron and brick traps removed and earthenware gullies fixed.
12	Water supplies laid direct from main to taps over sinks.
82	Waste pipes from baths, lavatories, and sinks trapped.
14	Choked drains cleared.
14	Defective w.c. cisterns repaired or new provided.
7	Offensive accumulations removed.
14	Nuisances from keeping fowls and animals abated.
22	Dirty premises limewashed and cleansed.
4	Nuisances from stables and manure pits abated.
91	Rooms disinfected.
3	Defective yards re-paved.
6	Cases of overcrowding abated.
2	Defective floors repaired.
25	Ashbins provided for house refuse.
6	Slop sinks constructed as w.c.

Factory and Workshops: Bakehouses.

During the year inspection has been made of these premises under the Act. As a whole, limewashing and cleaning are very well carried out, verbal notice being frequently found sufficient to get this done where necessary. The following is a list of premises in my district on the register:—

Number.	Description of Trade.	No. of workrooms or workplaces.
39	Laundries	76
36	Dressmaker and Milliner	54
6	,, ,, Outworkers ...	6
1	Corset Maker	1
12	Tailor	21
7	,, Outworkers	7
3	Bootmaker	3
6	Saddler and Harness Maker	6
2	Sailmaker	2
1	Coachbuilder	3
1	Wheelwright	2
2	Shoeing Smith	2
5	Upholsterer and Cabinet Maker ...	17
1	Blind Maker	3
2	Umbrella and Trunk Maker	2
1	Picture Framer	1
2	Photographer	4
6	Watchmaker and Jeweller	8
1	Electro-plate Works	2
4	Printing Works	10
1	Dye Works	1
5	Cycle Works	9
21	Plumber and Painter	21
8	Builder	22
2	Marble Mason	2
5	Quarries	5
2	Ironmonger and Smith	6
20	Baker and Confectioner	20
2	Marine Store and Rag Sorter ...	3

During the year twenty-five notices were given for the following:—

19 Limewashing and cleansing.
4 Overcrowding.
2 Defective floors.

Dairies, Cowsheds, and Milkshops.

The half-yearly inspection of forty-three dairies, cowsheds and milkshops within my district has been carried out during the month of May, and again in October. Generally speaking these places have been kept in a satisfactory condition, though in several cases I have had to caution milksellers as to keeping their shops in a better condition.

There is also a large quantity of milk supplied to Torquay from farms outside the Borough, and the dairies and cowsheds on thirty-three of these farms situate in the following districts :—

Garabridge	Dainton	Paignton
Brent	Abbotskerswell	Marldon
Totnes	Kingskerswell	

have, as in former years, been visited and inspected during the month of June, and again in November. The marked improvement which has taken place in cleanliness and general condition of the cowsheds has been maintained.

Common Lodging Houses.

The five registered common lodging houses that come under my supervision have during the year been periodically inspected.

In view of possible overcrowding likely to occur during Regatta week in August, I made a special midnight visit to all the houses, and as a result overcrowding was detected in each of them; the matter was reported to the Sanitary Committee, and warning letters were sent to the keepers of the houses.

Sale of Ice Cream.

Only one establishment used for the manufacture of ice cream is now situate in my district, and this has been inspected and found in a satisfactory condition.

Public Slaughter House.

These premises, situate in Parkfield Road, Upton, have been frequently visited; the periodical limewashing has been carried out. Occasionally trouble has arisen through irregularity in removal from the premises of manure and slaughter house refuse, and it has been necessary to call upon the owners to prevent this nuisance.

Tripe Boiling.

The establishment in Upton where this trade is carried on has been visited from time to time, and was always found in a satisfactory condition.

Marine Stores.

Three premises where this trade is carried on have been frequently visited under the Factory and Workshop Act, women being constantly employed in rag sorting.

Two of the premises are in Upton and the other in Ellacombe; the latter business was only established in the summer of this year.

Taking into consideration the nature of the business carried on, no complaints have had to be made as to the condition of the premises.

Infectious Disease and Disinfection

In regard to work in connection with infectious and other diseases, ninety-one rooms in various houses were disinfected after the following cases:—

18 Scarlet Fever	2 Measles
4 Enteric	1 Cancer
55 Diphtheria	1 Influenza
13 Phthisis	

Also the drains of forty-three of these houses were examined and tested, and in each case defects were found, with the result that the drains were relaid or repaired, and other necessary work carried out.

In every instance after cases of Phthisis an offer is at once made to disinfect, but being an optional matter with the occupier of the house, this is often refused. The following table will show the result for the last nine years.

Year.	No. of Cases.	No. of Disinfections	Refusals.
1900	42	20	22
1901	45	14	31
1902	25	9	16
1903	12	0	12
1904	20	8	12
1905	17	9	8
1906	15	9	6
1907	6	5	1
1908	21	13	8
Total	203	87	116

Office work has during the year demanded a considerable amount of time in regard to the keeping of the necessary books and records of work, and in correspondence.

Port Sanitary Inspection.

I now have pleasure in making my first report, though a short one, dating from my appointment in September last, to carry out the duties of Port inspection.

Previous to beginning the work I visited Dartmouth and interviewed the Port Sanitary Inspector there, and obtained information as to the duties and records kept.

The number of vessels boarded and inspected, from September to December 31st, 1908, was thirteen ; two were ships from foreign ports bringing timber, the rest were coastwise, including the two regular cargo and passenger steamers "Solway" and "Coath."

On the whole, the sanitary conditions on the vessels were satisfactory, with the exception of a few minor matters in regard to the closets in the crew's quarters, and to which the attention of the Captain or Mate was called, and rectified in each instance.

I am, Mr. Mayor and Gentlemen,

Yours obediently,

WILLIAM B. WATSON,

Cert. Royal San. Inst., Sanitary Inspector.

SANITARY INSPECTOR'S REPORT.

Town Hall, St. Mary-Church,
Torquay
30th January, 1909.

To His Worship the Mayor, Aldermen and Councillors of the Borough of Torquay.

Gentlemen,

I have the honour of presenting to you my eighth Annual Report, relating to the St. Mary-Church and Babbacombe Wards for the year ending 31st December, 1908.

Infectious and other Diseases.

A total of eighty rooms were disinfected on forty-eight different premises. The following table shows the number under each disease :—

Scarlet Fever ...	32 rooms	Diphtheria ...	9 rooms
Chicken Pox ...	6 rooms	Typhoid Fever ...	2 rooms
Measles	1 room	Phthisis and Consumption ...	10 rooms
Cancer	9 rooms	Not specified ...	11 rooms

Offer was made to disinfect three other rooms in which death had occurred from consumption, but permission to do so was refused.

A total of one hundred and thirty-three visits to premises, twenty-two smoke tests were applied, and twelve defective drains were relaid or repaired in connection with Infectious and other Diseases.

Houses visited on request.

Twenty-four houses were visited on request of occupiers and builders. The drains of twenty-two were smoke-tested, of which nineteen were found defective. The 10s. fee was paid in eleven instances.

Ten drains were very defective, and were entirely relaid. Nine defective ones were repaired.

Twenty-one Sanitary Certificates were granted.

Under this head a total of one hundred and three visits of inspection were made, one hundred and twelve sections of drains were tested by smoke and five by water.

Complaints.

Fifty-three premises were visited on the receipt of a written or verbal complaint. On thirty-four premises nuisances were found. In abating these the following improvements were effected :—

Drains relaid	4
Drains repaired	2
Choked drains cleared ...	3
Premises lime washed	3
Animal nuisances abated ...	9
Manure and offensive deposits removed	12
Surface of courtilage repaired ...	1
Cess pit cleaned	1

A total of one hundred and twenty-three visits of inspection were made, and fifteen smoke tests applied relating to complaints.

House to House and Periodic Inspections.

The sanitary conveniences used in connection with Nos. 1, 2, 3, 4 and 5, Lummaton Place have been supplied with new flush-rim pans and flushing cisterns. This work has been carried out by the owners, and completes a row of eleven houses first inspected during the latter weeks of 1907.

Three cottages near Fore Street and three at Westhill Lane were inspected. Three closets were found to have no flushing apparatus, and in another this fitting was out of order. Three new flush cisterns aad three pans were provided and one defective cistern repaired.

The Public Elementary Schools were regularly visited and inspection made of the closets and urinals. In only one was there any defect, and this was of such a nature that it was speedily put right.

The temporary accommodation on the Race-course was again visited before Easter, when it was found that the same provision had been made as last year.

The Public convenience on Oddicombe Beach has been many times visited, and was always found as satisfactory as could be expected under the circumstances.

A total of forty-nine visits were made under house to house inspections.

Dairies, Cowsheds and Milkshops.

There are now twenty-five cowsheds in this district, two having been discontinued. The number of dairies has increased and now stands at thirty-four. Three new ones were registered, three changed occupiers, and one was discontinued. One cowshed which had been burnt was re-built, re-paved, and improvements made in respect of the lighting. One dairy-man was cautioned for failing to give notice as to registration.

A total of one hundred and seventy visits were made to the dairies and cowsheds. They were invariably found in a satisfactory state.

Early in June and again in the latter part of the year the Medical Officer of Health and I visited twenty-six dairy-farms situated outside the Borough boundary. From these a great part of the milk supply of Torquay is obtained. We found nothing of which to complain. One of these farms at least may be said to be a "Model" one, since scrupulous cleanliness obtains there, and the cowsheds are everything that can be desired.

Slaughter Houses.

The seven slaughter-houses were frequently visited during the year and found free from nuisance.

I may here mention that through the kindness of the Sanitary Committee in giving me an extra fortnight's leave of absence, I was enabled to spend the whole of the month of June at the Wholesale Meat Market and Public Abattoir in the Borough of Plymouth. Whilst there, I had the opportunity of seeing every week about two tons of meat which was condemned as diseased or otherwise unfit for food. Many carcases were tuberculous, some dropsical, emaciated, anaemic, or affected with some specific complaint, and others were seized on account of being slaughtered when moribund. The value of this experience cannot be over-estimated. At the same time such training is indispensable to one presenting himself at the Examination for Inspectors of Meat and other Foods. At the examination held at London in December last I was successful.

Bakehouses.

The number of bakehouses on the register is now fifteen, one at Hele and one at Babbacombe having been discontinued. They were inspected by the Medical Officer and myself and were all found in a clean and satisfactory condition.

Factory and Workshop's Act.

Sixty-eight visits were paid to the workshops of all kinds. An increased number of Laundries is now on the list and, owing to a new regulation that Registration is required if two or even less than two persons are employed therein, there will be many more on the roll next year.

It was found necessary to serve three notices to abate nuisances found on inspection. In compliance with these notices, one case of overcrowding was abated, one workshop was whitened and the walls re-papered, and one defective closet apparatus was repaired.

The following table shews the number and kind of workshops now under inspection :—

Laundresses	...	...	31
Dressmakers	...	...	8
Tailors	...	...	2
Tailors' Outworkers	...	...	3
Plumbers and Painters	...	...	4
Carpenters and Builders		...	4
Coachbuilders	...	...	2
Cabinetmaker	...	...	1
Cycle Shops	...	...	2
Bootmakers	...	...	2
		Total	59

I have the honour to remain,

Mr. Mayor and Gentlemen,

Yours obediently,

HORACE RUSSELL SMITH,

Cert. Royal San. Inst. ; Sanitary Inspector.

BOROUGH OF TORQUAY.

METEOROLOGICAL REPORT

FOR THE YEAR 1908

BY

FREDK. MARCH, F.R. Met. Soc.,

Borough Meteorologist.

The Borough Observatory,
February 1st, 1909.

OBSERVATORY AND INSTRUMENTS.

The Observatory is organised and maintained by the Town Council, and is under the supervision of the Royal Meteorological Society and of the Meteorological Office.

The several Barometers, Thermometers, and Rain Gauges have been verified at Kew Observatory, and regularly examined by a representative from the Royal Meteorological Society. Readings are all corrected for instrumental errors.

The Hygrometrical Results are deduced from the daily morning readings of the Dry and Wet Bulb Thermometers by means of Glaisher's Tables.

The averages for Sunshine are the result of 20 years', for Temperature and Rainfall of 32 years', and for Pressure of 24 years' observations.

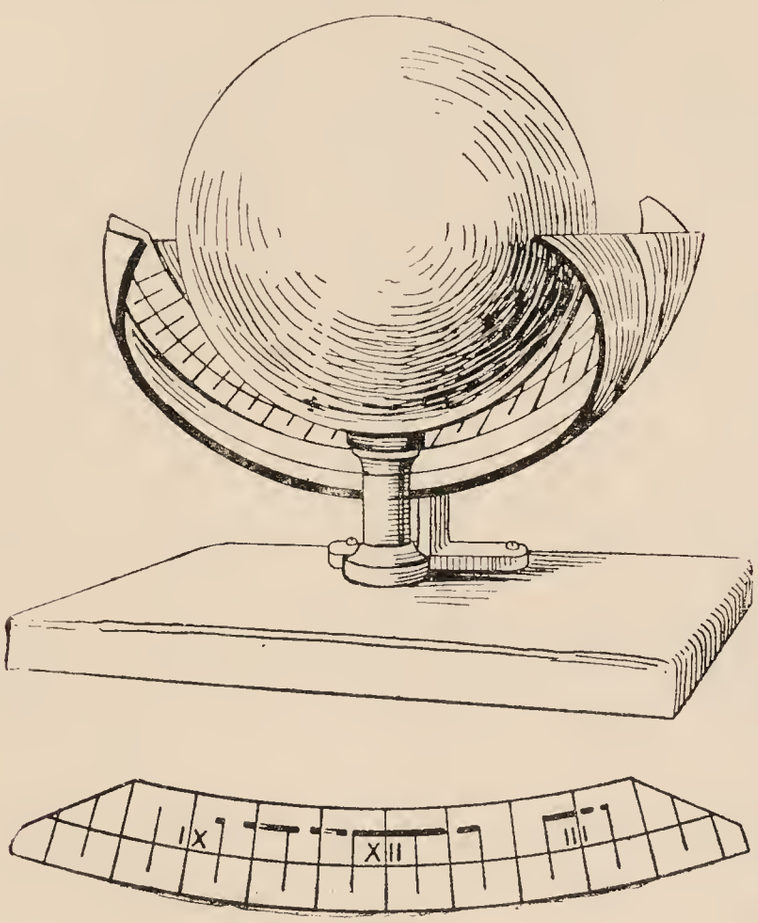
The following are the instruments and appliances in regular use, those marked with an asterisk being the property of the Torquay Natural History Society, and lent by them to the town:—

* The **Barometer** is a Fortin Standard, and is read twice daily, at 9 a.m. (local time) and at about 5 p.m. All readings are reduced to 32° F. and mean sea level, and are thus comparable with all readings similarly reduced.

* An **Aneroidograph**, by Richard Freres, gives in graphic manner the alternations of pressure.

There are two double louvred **Stevenson's Screens**, each containing **Dry** and **Wet Bulb**, and **Maximum** and **Minimum Thermometers**. The instruments are of standard make, and are so placed that the bulbs of the hygrometer are four feet above the level of the grass. One of these sets has been working throughout the year at Cary Green, where the published temperatures have been taken; the other in the Princess Gardens.

The **Rain Gauges** are of copper, by Casella, and of Snowdon pattern. They are placed, one on Cary Green, one in the Princess Gardens, with the upper edge 12 inches above the level of the ground.



A third *__Stevenson's Screen__, also double louvred, has been in position in the Princess Gardens, and has held a *__Thermograph__, or Self-recording Thermometer, and an __Ozonometer.__

The **Grass Minimum** is by Hicks, and is placed on grass in the Princess Gardens about an inch above the ground.

The **Sunshine Recorder** (see illustration above) is placed upon the covered shelter at the southern end of the Pier deck, and is a Curtis' Improved Campbell-Stokes instrument fitted with a $3\frac{1}{2}$-inch spherical lens of crown glass, and working on the principle of the burning-glass.

DURATION OF BRIGHT SUNSHINE

In hours and tenths of an hour,

As recorded by the Campbell-Stokes' Standard Instrument.

1908.	Total Bright Sunshine.	Percentage Actual of Possible.	Difference from Average.	Greatest Amount in one day.	Date.	Percentage Actual of Possible.	Sunless Days.
	Hours.	%	Hours.	Hours.		%	
January ...	62·8	24	− 2·2	6·8	12th & 29th	83 & 76	9
February ...	71·5	26	− 13·2	7·9	4th	86	8
March	149·2	41	+ 6·2	10·6	26th	85	6
April	169·2	41	− 11·5	11·7	8th	87	1
May	213·4	45	− 11·5	14·5	28th	90	2
June.....	280·2	58	+ 54·2	14·9	5th	92	0
July.....	224·9	46	− 1·2	14·3	29th	92	2
August.....	237·0	53	+ 30·4	13·7	2nd	94	1
September..	141·3	38	− 26·3	10·6	12th	82	4
October ...	114·1	35	+ 0·1	9·6	12th	88	7
November..	74·8	28	+ 5·5	7·5	19th	86	5
December..	47·8	20	− 5·6	6·1	7th	76	13
Year...	1786·2	41	− 27·1	14·9	June 5th	92	58

SHADE TEMPERATURES.

Taken at 9 a.m. (Local Time).

1908.	Maximum *mean.*	Minimum *mean.*	Max. & Min. *mean.*	Difference from Average.	Range *mean.*	Highest.	Date.	Lowest.	Date.
	°	°	°	°	°	°		°	
Jan. ...	46·0	36·8	41·4	−1·0	9·2	55·5	17th	23·4	11th
Feb. ...	49·6	39·9	44·8	−1·8	9·7	55·1	18th	30·0	2nd
March .	48·9	37·4	43·2	−1·0	11·5	56·9	23rd	29·2	5th
April . .	53·5	39·5	47·5	−0·7	14·0	61·4	16th	29·1	24th
May ...	61·3	48·7	55·0	+2·0	12·6	71·7	29th	41·9	7th
June...	66·7	51·8	59·3	+0·7	14·9	77·9	4th	43·9	19th
July ...	69·2	55·5	62·4	+0·6	13·7	78·2	30th	51·3	13th
Aug....	68·5	54·1	61·3	−0·2	14·3	77·9	7th	47·6	11th
Sept. . .	63·5	50·9	57·2	−1·1	12·6	70·7	30th	42·0	13th
Oct. ...	61·8	51·2	56·5	+4·5	10·6	69·4	2nd	34·1	25th
Nov....	55·1	46·5	50·8	+3·4	8·6	61·3	2nd	39·7	8th
Dec. ...	50·7	41·7	46.2	+2·5	9·0	58·2	19th	27·8	30th
Year	57·9	46·2	52·1	+0·9	11·7	78·2	30th June	23·4	Jan. 11th

RAINFALL

In inches and hundredths.

1908.		Total Amount.	Difference from Average.	Wet Days.	*Mean* Wet Day Rainfall.	Greatest fall in 24 hours.	Date
January ...	*C. G.	1·26	−2·05	12	0·10	0·47	7th
,,	†P. P.	1·27		12	0·11	0.48	7th
February ...	C. G.	1·79	−0·94	14	0·13	0.53	16th
,,	P. P.	1·82		14	0·13	0·55	16th
March	C. G.	3·13	+0·58	19	0·16	0.81	5th
,,	P. P.	3·16		19	0·17	0·82	5th
April	C. G.	2·47	+0·12	14	0·18	0.71	27th
,,	P. P.	2·47		14	0·18	0·73	27th
May.....	C. G.	1·75	−0·25	16	0·11	0.41	14th
,,	P. P.	1·78		16	0·11	0·41	14th
June.....	C. G.	0·31	−1·85	6	0·05	0.14	1st
,,	P. P.	0·33		6	0·05	0·15	1st
July.....	C. G.	1·28	−1·07	10	0·13	0.30	16th
,,	P. P.	1·28		10	0·13	0·30	16th
August.....	C. G.	4·00	+1·39	13	0·31	0.85	31st
,,	P. P.	4·07		13	0·31	0·86	31st
September	C. G.	2·46	+0·17	21	0·12	0.55	22nd
,,	P. P.	2·51		21	0·12	0·56	22nd
October ...	C. G.	2·22	−1·84	15	0·15	0.44	17th
,,	P. P.	2·20		15	0·15	0·41	15th&17th
November	C. G.	0·75	−2·96	11	0·07	0.16	12th
,,	P. P.	0·74		11	0·07	0·15	12th
December	C. G.	3·82	+0·10	22	0·17	0·54	27th
,,	P. P.	3·81		22	0·17	0·56	27th
Year.....	C. G.	25·24	−8·94	173	0·15	0·85	31st Aug.
,, ...	P. P.	25·44		173	0·15	0·86	31st Aug.

* Cary Green. † Princess Pier.

HUMIDITY, CLOUD, OZONE, AND WIND.

1908.	Humidity.			Cloud	Ozone. Per centage of possible.			Wind.
	Dry Bulb *mean.*	Wet Bulb *mean.*	Relative Humidity.	Cloud *mean* 1 to 10.	*Mean* Daily Amount.	Greatest Daily Amount	Least Daily Amount.	Prevailing Quarters.
	°	°	%		%	%	%	
January	40·9	39·3	87	6·0	48	90	20	N.W.
February	44·5	42·3	83	7·5	54	90	20	N.W. & W.
March ...	43·1	40·2	78	6·0	55	90	20	N.W. & W.
April ...	46·5	42·8	73	6·0	51	70	20	N.W. & E.
May	55·0	51·7	79	7·0	54	80	35	E. & S.
June.....	60·3	55·3	71	5·0	47	65	30	W. & S.W.
July	63·5	58·7	73	4·5	41	65	20	E.
August...	62·9	58·3	74	6·0	50	65	20	S.W. & W.
Sept. ...	57·7	55·0	83	7·0	47	70	20	E.
October	56·9	55·3	89	6·5	37	65	20	E., W., & S.W.
Nov. ...	50·4	48·0	83	7·0	47	70	10	N.W.
Dec.	45·8	44·2	88	8·0	51	70	20	E. & S.W.
Year...	52·3	49·3	80	6·5	49	90	10	E., S.W., & W.

BAROMETRIC PRESSURE

In inches and thousandths.

Reduced to 32° F. and Sea Level.

1908.	*Mean* of Month.	Difference from *Mean* of Month.	Highest Reading.	Lowest Reading.	Extreme Range of Pressure.
January	30·175	+0·109	30·545	29·261	1·284
February	30·179	+0·185	30·769	29·383	1·386
March	29·885	+0·079	30·219	29·239	0·980
April	29·969	+0·081	30·396	29·407	0·987
May	30·011	+0·043	30·524	29·416	1·108
June..	30·091	+0·081	30·355	29·700	0 655
July	30·042	+0·039	30·466	29·513	0·953
August.....	30·021	+0·048	30·393	29·535	0·858
September	29·986	−0·044	30·336	29·378	0·958
October	30·080	+0·134	30·379	29·814	0·565
November	30·065	+0·119	30·398	29·594	0·804
December	29·903	−0·073	30·379	28·998	1·381
Year	30·034	+0·070	30·769	28·998	1·771

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